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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/720,744	06/11/2001	Wilmert De Bosscher	522-1730	5005

7590

07/12/2004

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EXAMINER

DUNWOODY, AARON M

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/720,744	BOSSCHER ET AL.	
	Examiner	Art Unit	
	Aaron M Dunwoody	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13, 15, 17-20, 24-26, 28, 30, 31 and 33-41 is/are rejected.
- 7) ☒ Claim(s) 16, 22, 23, 27, 29 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Claim Rejections - 35 USC § 102***

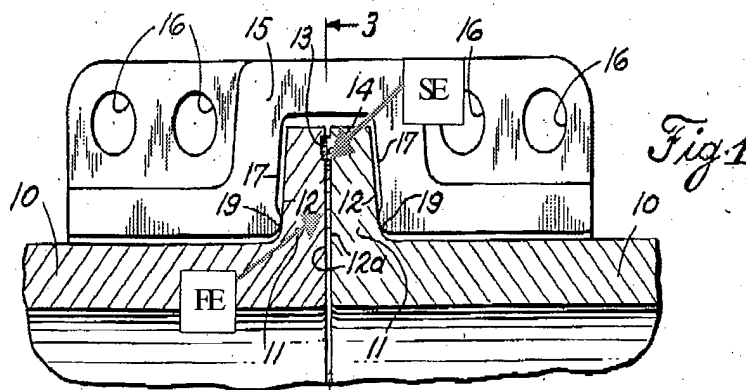
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13, 15, 17-20, 24-26, 28, 30, 31 and 33-41 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 2878041, Hobbs.

In regards to claim 13, in Figure 1 below, Hobbs discloses a vacuum tight coupling for end portions of two tubular sections, a portion of the two tubular sections having an inner space (relative to the outer circumference of each tubular section), the size of the inner space of a first end portion (FE) being smaller than that of a second end portion (SE),



the second end portion having a flange extremity axially slidable over the first end portion to abut the flange extremity against a peripheral outer abutment ring on the first end portion, the coupling comprising at least one sealing ring (13) located between an

inwardly facing surface of the second end portion and an outwardly facing surface of the first end portion in a sliding overlapping contact area and further comprising a clamping ring (15) with a substantially cylindrical outer surface and being of composed clamping elements (col. 3, lines 21-23), each clamp having a semi-circular or U-shaped cross section with an inwardly oriented recess, the recess enclosing the flange extremity and the abutment ring, the recess cooperating with the flange extremities to positively, solidly and axially clamp the abutment ring against the flange extremity, the clamping elements being fixed to each other at their extremities with fixing means comprising in at least one place on the clamping ring bolting means, the axis of which is perpendicular to the longitudinal axis of the coupled tubular sections and substantially tangential to the clamping ring periphery.

In regards to claim 15, Hobbs discloses the ring halves, besides the bolting means for fixing their extremities in one place comprising pivoting means for fixing them in their opposite extremities.

In regards to claim 17, Hobbs discloses the length of the overlap portion between the first and second tube portions being 50% or less of the inner diameter of the first portion.

In regards to claim 18, Hobbs discloses the length of the overlap portion between the first and second end portions being 5 % or more of the inner diameter of the first portion.

In regards to claim 19, Hobbs discloses the coupling being a high vacuum or ultra-high vacuum coupling.

In regards to claim 20, Hobbs discloses a coupling for a cylindrical sputtering target for end portions of two tubular sections, a portion of the two tubular sections having an inner space, the size of the inner space of a first end portion being smaller than that of a second end portion, the second end portion having a flange extremity axially slidable over the first end portion to abut the flange extremity against a peripheral outer abutment ring on the first end portion, the coupling comprising at least one sealing ring located between an inwardly facing surface of the second end portion and an outwardly facing surface of the first end portion in a sliding overlapping contact area of the first and second end portions and further comprising a clamping ring with a substantially cylindrical outer surface and being composed of clamp elements, each clamp element having a semi-circular or U-shaped cross section with an inwardly oriented recess, the recess enclosing the flange extremity and the abutment ring, the recess cooperating with the flange extremities to positively, solidly and axially clamp the abutment ring against the flange extremity, the clamp elements being fixed to each other at their extremities with fixing means comprising in at least one place on the clamping ring bolting means, the axis of which is perpendicular to the longitudinal axis of the coupled tubular sections and substantially tangential to the clamping ring periphery.

In regards to claim 24, Hobbs discloses the length of the overlap portion between the first and second tube portions being 50% or less of the inner diameter of the first portion.

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In regards to claim 25, Hobbs discloses the length of the overlap portion between the first and second end portions being 5 % or more of the inner diameter of the first portion.

In regards to claim 26, Hobbs discloses the coupling being a high vacuum or ultra-high vacuum coupling.

In regards to claim 28, Hobbs discloses an anti-arcing element (27).

In regards to claim 30, Hobbs the anti-arcing element being conductive or insulating.

In regards to claim 31, Hobbs discloses at least one groove being provided between the anti-arcing element and the clamping ring.

In regards to claims 33 and 35, Hobbs discloses the length of the overlap portion between the first and second tube portions being 30% or less of the inner diameter of the first portion.

In regards to claims 34 and 36, Hobbs discloses the length of the overlap portion between the first and second tube portions being 20% or less of the inner diameter of the first portion.

In regards to claims 37 and 38, Hobbs discloses the clamping elements being two substantially equal ring halves.

In regards to claims 39 and 40, Hobbs discloses the length of the overlap portion between the first and second tube portions is at least 5% of the inner diameter of the first portion.

In regards to claim 41, Hobbs discloses a coupling for a rotatable cylindrical sputtering target on a spindle for end portions of two tubular sections, the cylindrical target and the spindle each having one of the tubular sections, a portion of the two tubular sections having an inner space, the size of the inner space of a first end portion being smaller than that of a second end portion, the second end portion having a flange extremity axially slidable over the first end portion to abut the flange extremity against a peripheral outer abutment ring on the first end portion, the coupling comprising at least one sealing ring located between an inwardly facing surface of the second end portion and an outwardly facing surface of the first end portion in a sliding overlapping contact area of the first and second end portions and further comprising a clamping ring with a substantially cylindrical outer surface and being composed of clamp elements, each clamp element having a semi-circular or U- shaped cross section with an inwardly oriented recess, the recess enclosing the flange extremity and the abutment ring, the recess cooperating with the flange extremities to positively, solidly and axially clamp the abutment ring against the flange extremity, the clamp elements being fixed to each other at their extremities with fixing means comprising in at least one place on the clamping ring bolting means, the axis of which is perpendicular to the longitudinal axis of the coupled tubular sections and substantially tangential to the clamping ring periphery.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hobbs.

In regards to claims 14 and 21, Hobbs discloses the claimed invention except for the flange extremity being a separate ring. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the flange extremity as a separate ring, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Allowable Subject Matter

Claims 16, 22, 23, 27, 29 and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 3/29/2004 have been fully considered but they are not persuasive. The Applicant argues that Hobbs '041 shows vertical sealing surfaces. The Examiner neither agrees or disagrees with Hobbs '041 having vertical sealing

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surfaces; however, the claim language of the instant application does not exclude vertical sealing surfaces. Therefore, Hobbs '041 meets the claim limitations.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

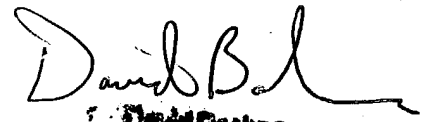
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M Dunwoody whose telephone number is 703-306-3436. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P Stodola can be reached on 703-306-5771. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

.amd


David Boehme
Patent Examiner